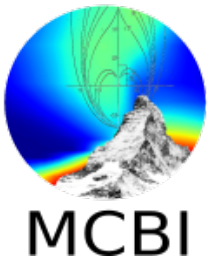

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* Electromagnetic characterization of Amorphous Carbon in the sub-THz

Tuesday 24 September 2019 16:30 (10 minutes)

Modern accelerators and light sources often require special treatment of the vacuum chamber surface in order to avoid undesirable effects and to maximize machine performance. Coatings with Amorphous Carbon (a-C) have been extensively tested and used with very effective results since it allows to reduce the secondary electron yield (SEY) of the pipe walls due to electron cloud and to avoid the relevant beam instability. An electromagnetic characterization a-C coating is therefore fundamental to build a reliable impedance model. Our characterization method is based on time domain measurements of an electromagnetic wave passing through a tailored half-waveguide, closed with a bulk piece where the coating is deposited. This configuration is designed to have a homogeneous coating thickness large enough to allow a good signal to noise ratio but also to avoid peel-off and blistering. The electromagnetic characterization is performed in the frequency range from 0.1 to 0.3 THz.

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